

**CDF/PG&E** Fire Prevention Partnership

In Accordance with Public Resources Code 4292

March 27, 2001

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This Pocket Guide contains photographs of power line equipment used by Pacific Gas and Electric Company, Southern California Edison and other electric utilities of California. It is expected that all personnel who make condition inspections and surveys, inspections of power lines, or who prescribe hazard reduction work or other fire prevention measures will be familiar with the contents of this Guide.

This Pocket Guide is only to be used as a ready-reference tool for identifying power line equipment in the field. It is a companion to the complete Power Line Fire Prevention Field Guide, which also contains the statutes and minimum fire prevention standards necessary to minimize wildland fires that may be caused by the operation and maintenance of electrical power lines. It is expected that all personnel using this Pocket Guide will first be thoroughly familiar with the contents of the Field Guide.

This guide was developed as a mutual undertaking by the California Department of Forestry and Fire Protection and the Pacific Gas and Electric Company. Its purpose is to provide information to the personnel of the fire service agencies and electrical operators for identification of power lines and power line equipment within the areas of their respective jurisdiction and franchise responsibilities.

This Pocket Guide is not to be used as a substitute for proper training, but as a reference tool for personnel already familiar with the subject.

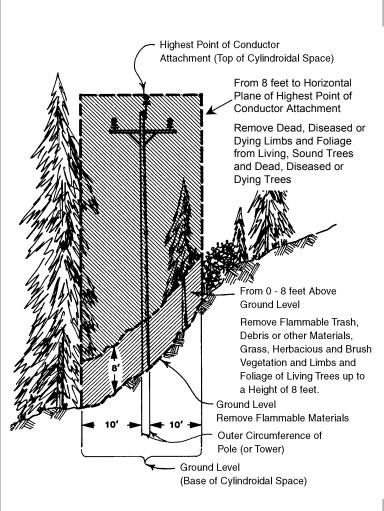
#### **Foreword**

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Time of Year by Location when Powerline Hazard Reduction Standards are Applicable



# PRC 4292 Clearing Requirements

#### **California Code of Regulations** Title 14, Section 1255

Exemptions to Minimum Clearance Provisions - PRC 4292

The minimum clearance provisions of PRC 4292 are not required around poles and towers, including line junction, corner and dead end poles and towers:

- (a) Where all conductors are continuous over or through a pole or tower: or
- (b) Where all conductors are not continuous over or through a pole or tower, provided, all conductors and subordinate equipment are of the types listed below and are properly installed and used for the purpose for which they were designed manufactured;
  - (1) Compression connectors.
  - (2) Automatic connectors
  - (3) Parallel groove connectors.
  - Hot line tap or clamp connectors that were designed to (4) absorb any expansion or contraction by applying spring tension on the main line or running conductor and tap connector.
  - (5) Fargo GA 300 series piercing connectors designed and manufactured for use with tree wire.
  - (6) Flat plate connectors installed with not less than two bolts.
  - Tapered C-shaped member and wedge connectors. (7)
  - (8) Solid blade single-phase bypass switches and solid blade single-phase disconnect switches associated with circuit reclosers, sectionalizers and line regulators.
  - (9) Equipment that is completely sealed and liquid filled.
  - Current limiting, non-expulsion fuses. (10)
- (c) On the following areas, if fire will not propagate thereon; Fields planted to row crops.
  - (1)
  - Plowed or cultivated fields. (2)
  - Producing vineyards that are plowed or cultivated. (3)
  - Fields in nonflammable summer fallow. (4)
  - (5) Irrigated pasture land.
  - (6) Orchards of fruit, nut or citrus trees that are plowed or cultivated.
  - Christmas tree farms that are plowed or cultivated. (7)
  - (8) Swamp, marsh or bog land.
- (d) Where vegetation is maintained less than 30.48 cm (12 inches) in height, is fire resistant, and is planted and maintained for the specific purpose of preventing soil erosion and fire ignition.

#### 4292 Exemptions



Pole Clearing Example





# Non-Exempt Pole Identification

#### Subject to PRC 4292 clearance requirements



### Non-Exempt Equipment



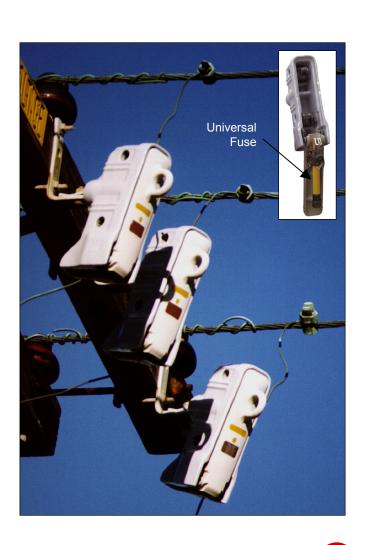
#### **Universal Fuse**





### Open Link Fuse





### Enclosed Cutout







Solid Blade Disconnect





# Solid Blade Disconnects

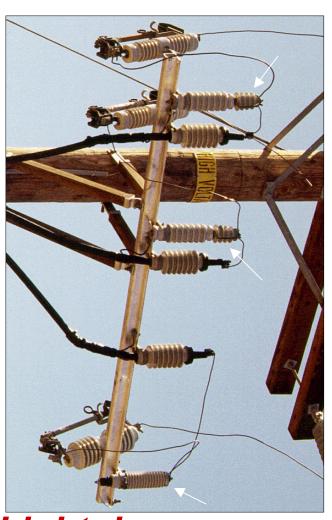
4kV Bayonet





### In-Line Disconnect





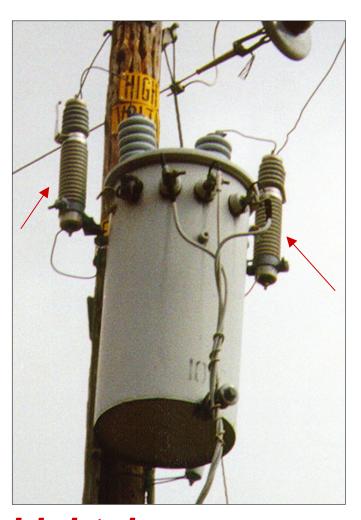
Lightning Arrester





### Non-Porcelain Lightning Arrester





Lightning Arrester





### Lightning Arrester

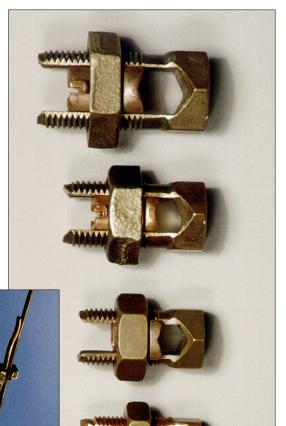




Hot Tap Clamp

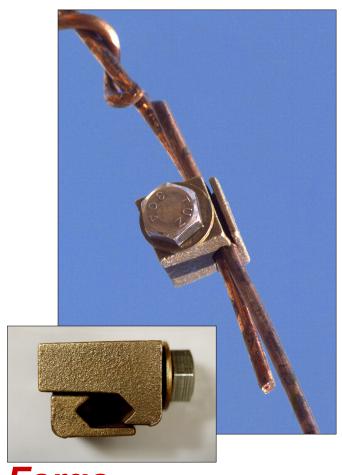


Note: Under certain conditions, split bolts are exempt. See page 44.



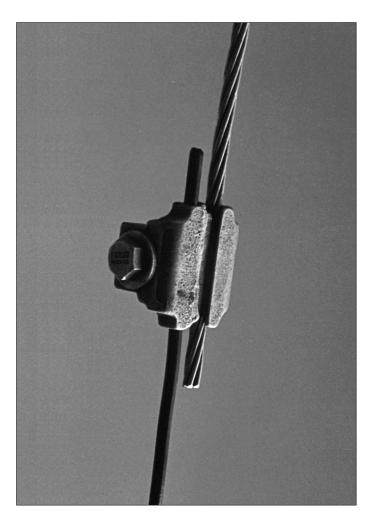
### Split Bolt Connector





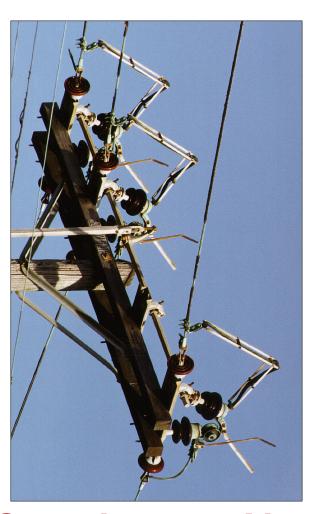
Fargo Connector



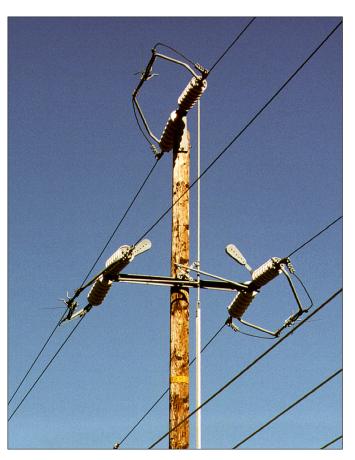


#### LM Connector





# Grasshopper Air E



# Transmission Air Switch



# Transmission Air Switch

#### Not subject to PRC 4292 clearance requirements



# Exempt Equipment



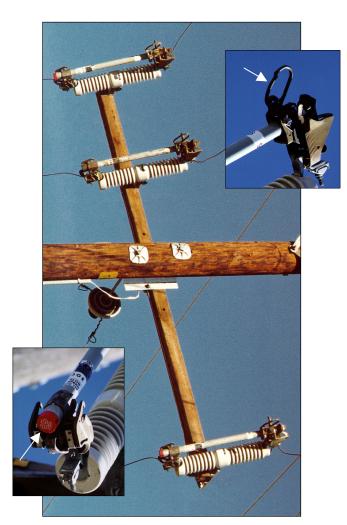
Non-Expulsion Fuse





Liquid Filled Fuse





#### SMU-20 Fuse

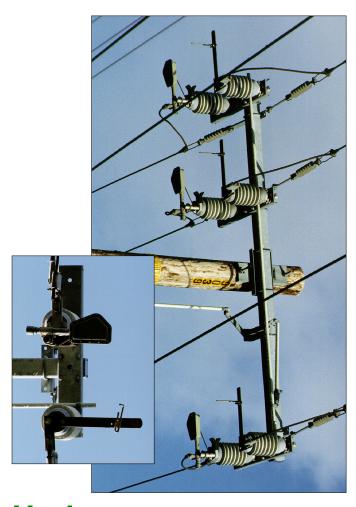




S&C Fault Tamer Fuse

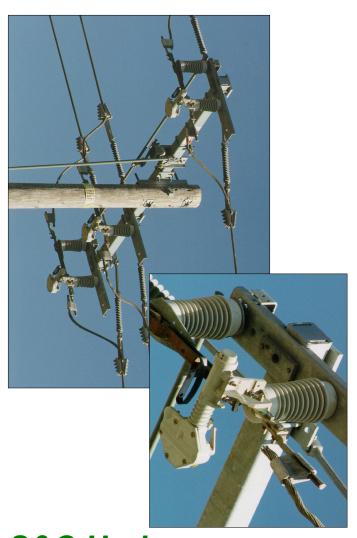


# 600 Amp KPF Air E



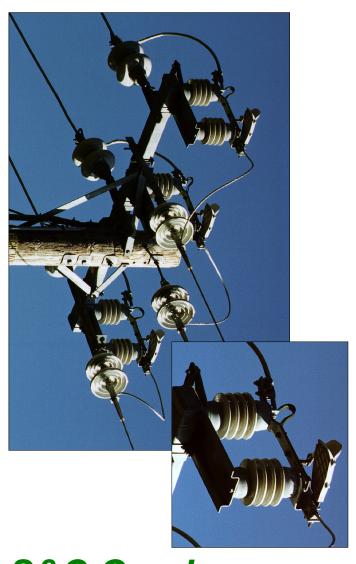
Underarm Sidebreak Switch





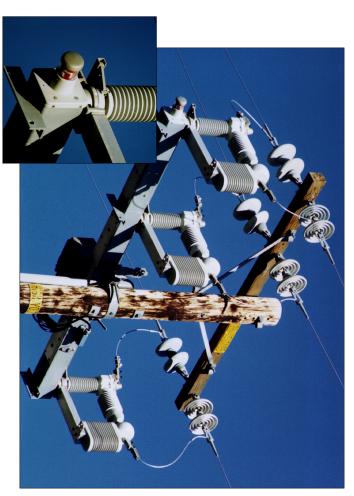
S&C Underarm
Sidebreak Switch





### S&C Omni-Ruptor Switch



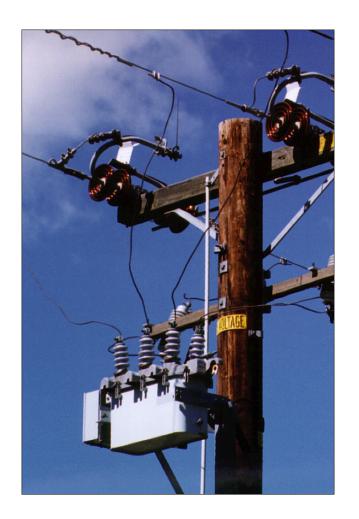


# S&C Scada-Mate E



#### Recloser





#### Sectionalizer





#### Voltage Regulator





### Capacitor Bank





#### **Transformer**





### Parallel Groove Connector





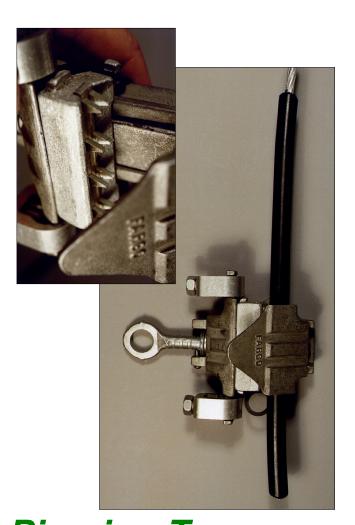
### Parallel Groove Connectors



Note: Some Hot Tap Clamps are non-exempt. See page 18.

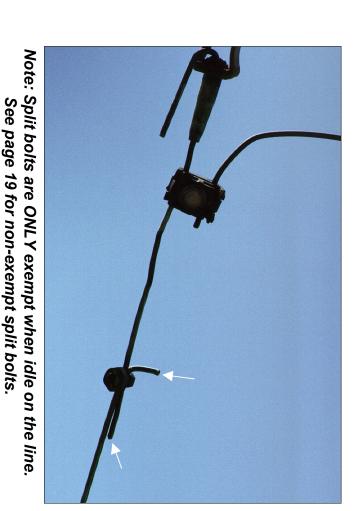
#### Hot Tap Clamp





#### Piercing Tap Clamp





### Idle Split Bolt Connectors





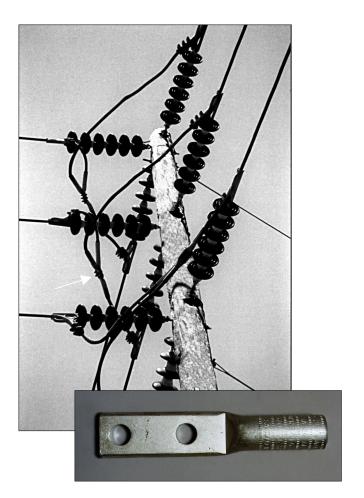
#### Wedge Connector





# Compression Connector





### Bolted Flat Plate Connector





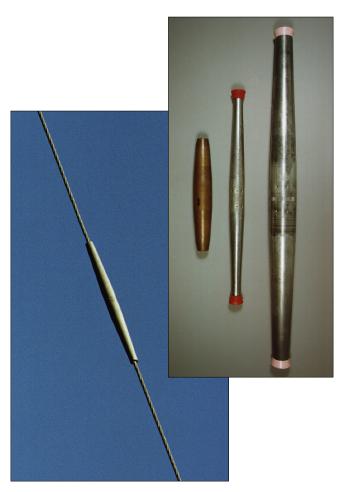
## Automatic Deadend





#### Line Splices

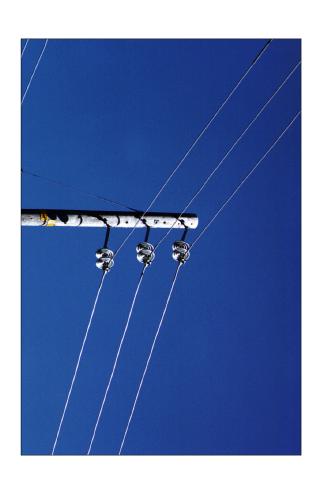




Automatic Splices



## Distribution Construction



### Vertical Construction



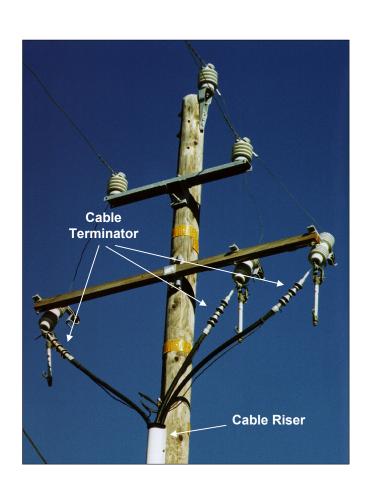
### Triangular Construction



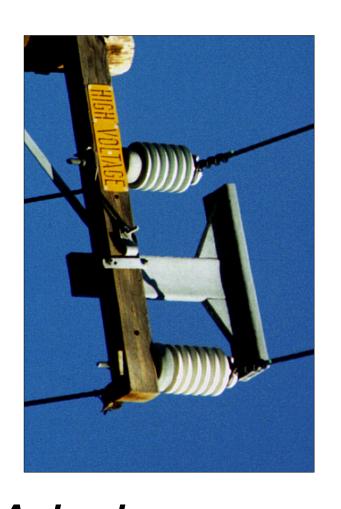
### Alley Arm Construction



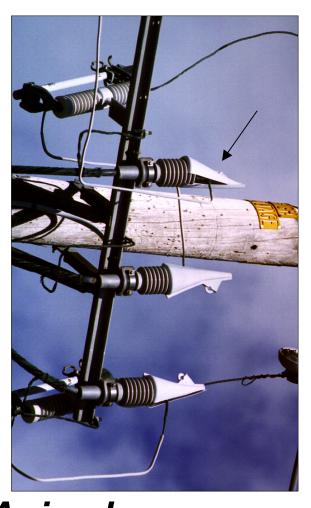
## Crossarm Construction



#### Cable Riser w/ Cable Terminator



#### Animal Protection – Raptor Perch



Animal Protection – Squirrel Guard

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